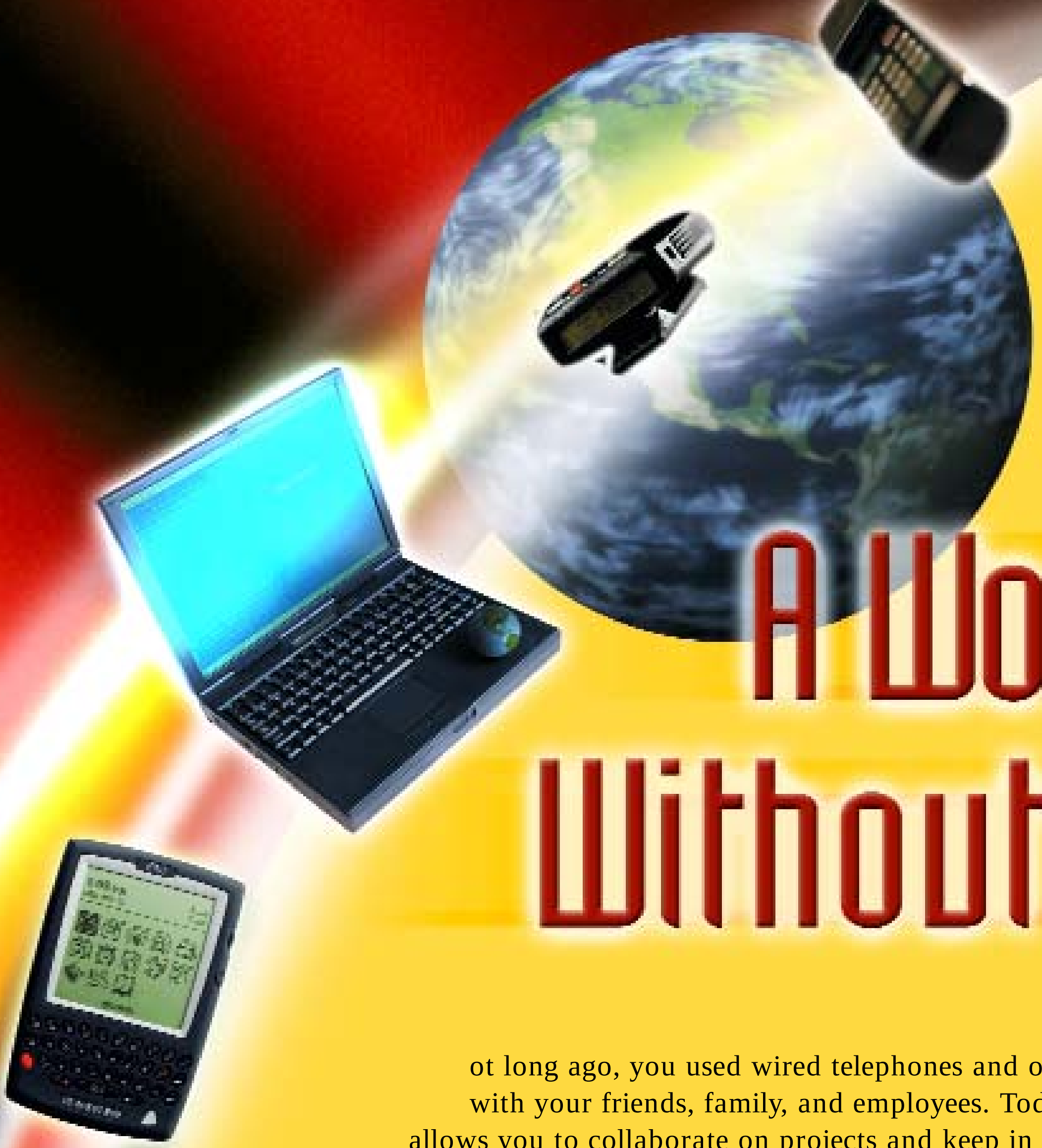
www.scsite.com/dc2002/ch9/wireless.htm



A World Without Wires

Not long ago, you used wired telephones and other devices to communicate with your friends, family, and employees. Today, wireless technology allows you to collaborate on projects and keep in touch with friends and family from anywhere in the world using a variety of gadgets: a smart pager, a cellular telephone, a handheld computer, and a notebook computer with high-speed Internet access. You also have the technology to check your e-mail as you travel throughout your town or the world.

Wireless networks are springing up everywhere, driven by convenience, cost, and access. Indeed, the wireless evolution is taking the world by storm. Even the casual observer notices dramatic changes in the way computer users send e-mail and communicate, access the Internet, and create and share files in the office. Your pockets and backpack may be overflowing with small electronic devices, but the wireless revolution is making headway to combine some of these products and simplify your life.

Today's wireless technology represents an evolution of products and standards. This special feature looks at a wide variety of these wireless products and illustrates how this technology is being used to simplify and expand your communication abilities.

Web Instructions: *To gain World Wide Web access to additional and up-to-date information regarding this special feature, start your browser and enter the URL shown at the top of this page.*

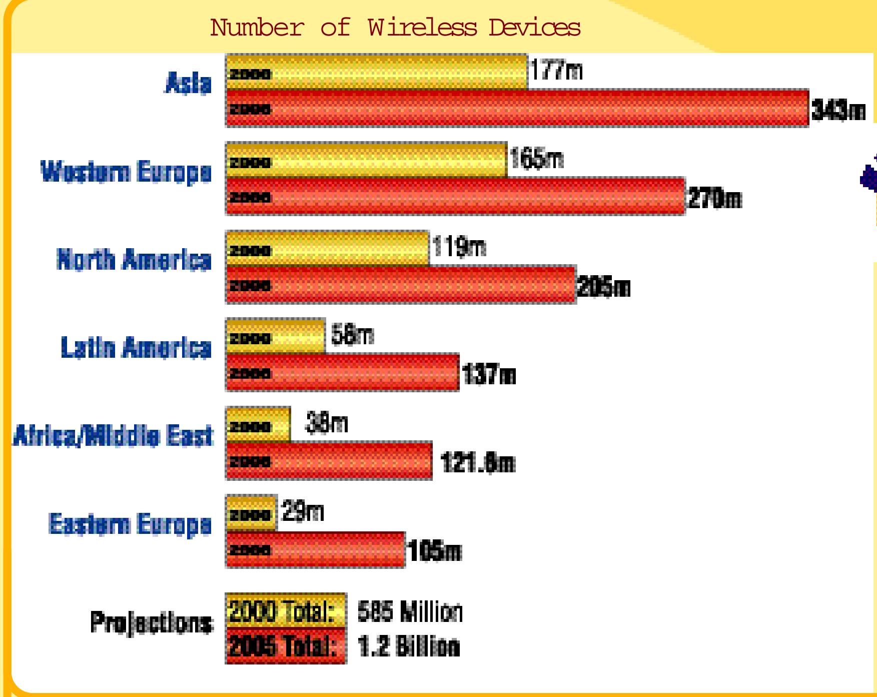


FIGURE 1

Today's technological changes are just the beginning of our fast-paced expansion into the wireless domain. Asia and Western Europe have emerged as world leaders in wireless device use. By 2005, more than 1.2 billion wireless devices will be in use, with millions of these products able to access the entire Web wirelessly.

FIGURE 2

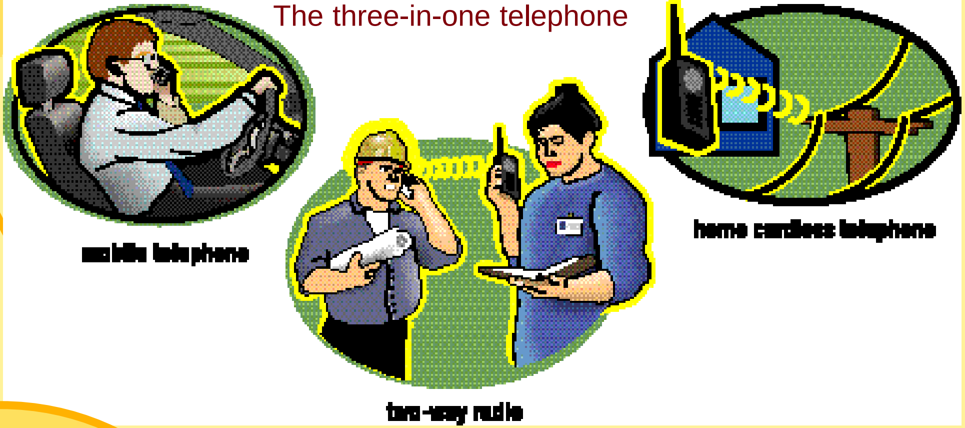
Messaging is the foremost reason for the wireless market explosion. Wireless links to corporate networks allow employees to connect their cellular telephones, notebook computers with wireless Web modems, and handheld computers, and access their e-mail and key applications. Today, more than 170 million people worldwide send more than 3 billion messages per month. Analysts expect these numbers to surge by 2004, estimating that more than 1.3 billion people will send 244 billion messages monthly.

FIGURE 3

Wireless desktop computer components eliminate tangled cords and provide flexibility and freedom of movement. Digital radio technology allows peripherals, such as cordless pointing devices and keyboards, to work in a short range without being pointed at the computer.

FIGURE 4

Your wireless telephone is no longer just a telephone. At home, it serves as a portable telephone with a fixed line charge. On the road, it works as a mobile telephone with cellular charges. When it is in range of another telephone with Bluetooth™ wireless technology, it functions as a two-way radio. These devices also may contain other features, such as the ability to send text messages, a microbrowser to access the Internet, a speakerphone, and a wireless modem that can connect to a compatible handheld computer or notebook computer.



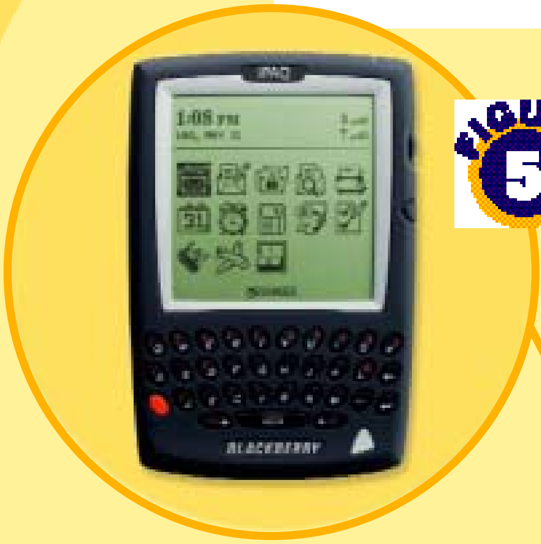


FIGURE 5

Compaq iPAQ BlackBerry users can access their e-mail at all times because they always are connected to a wireless network. They can watch e-mail messages scroll by while waiting for a bus, sitting in a meeting, taking coffee breaks, or studying with friends. Users also can compose, forward, and reply to messages.

FIGURE 6

Today’s smart pagers are small and relatively inexpensive. Compared to cellular telephones, they have a longer battery life, lower access fee, and smaller size. Many provide instant messaging capability. Some computer experts consider Internet instant messaging (IM) the e-mail of the new millennium. Interactive pagers provide two-way messaging, information managers, and news, sports, and stock updates. Depending on the subscription service, some allow users to execute stock trades and make purchases, such as airline tickets.

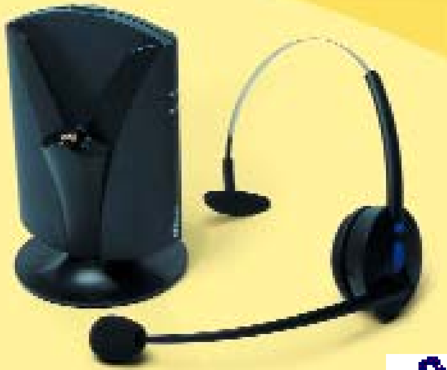


FIGURE 7

Ericsson introduced the first Bluetooth™ product in 2000 — a headset that communicates with a wireless telephone, thus enabling users to talk hands-free. Wireless headsets also can connect to notebook computers and handheld computers.

FIGURE 8

United, American, and Delta airlines have set up high-speed wireless access at their main hubs and select international airports. This wireless infrastructure may improve productivity by having employees use the network while waiting for airplanes. The three airlines recognize that passengers travel with notebook computers, and with wireless access available, these customers can accomplish routine tasks such as accessing the Internet.

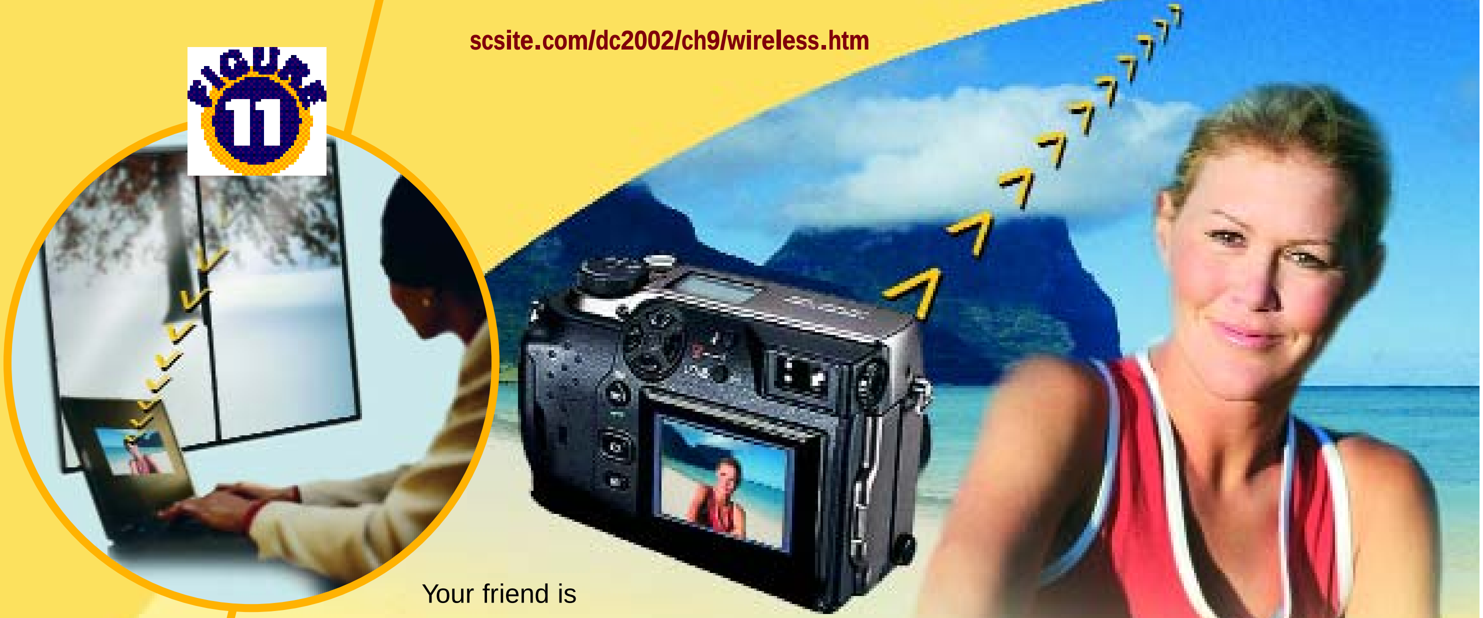
FIGURE 9

Wireless technology revolutionizes the way we learn and interact. During meetings, employees can use their wireless notebook computers, e-mail devices, and handheld computers to exchange electronic documents, business cards, schedules, and photos with all the people in the room or with selected participants. They even can transmit their documents to a data projector.

FIGURE 10

Wireless connectivity makes it easy to synchronize files on your handheld computers and notebook computers. When you are on the road, you can connect your wireless devices to an office network and automatically transfer databases, appointments, to-do lists, and other files, just as if you were seated in front of your computer. Back in the office, you can update your notebook computer and handheld computer the instant you enter the room.

FIGURE 11



Your friend is vacationing in sunny Hawaii; you are shoveling snow in frigid Chicago. You can bask in your friend’s warmth with instant postcards. All your friend needs to do is capture an image with a digital camera, connect the camera to a mobile telephone, and transmit the postcard to you. In seconds, you will receive the image on your notebook computer that is connected wirelessly to your mobile telephone.

FIGURE 12

Millions of hikers, boaters, pilots, drivers, and other navigators never feel lost with the aid of global positioning system (GPS) devices. These products rely on 24 satellites that circle the Earth twice a day in a very precise orbit and transmit data to Earth. The GPS products then use 3 to 12 of these satellites to determine the receivers’ precise geographic locations. Some GPS devices include color mapping capability that gives detail for any United States city. GPS modules also are available for handheld computers. By the middle of this decade, analysts predict that 25 million vehicles, including all new cars, will be equipped with GPS navigational devices.

FIGURE 13

Instructors now can determine just how well students are comprehending class material with the help of interactive wireless computers. They can ask a multiple-choice or true-false question and then ask students to respond using a wireless keypad resembling a remote control. Within seconds, an infrared reader captures the students’ responses, and then a computer tabulates the results, and tracks their scores.

Wireless technological changes are affecting the ways you communicate with colleagues and relatives throughout the world. Each day, the number of wireless devices increases as the price of connectivity decreases. Indeed, you are taking part in the wireless revolution sweeping the world.